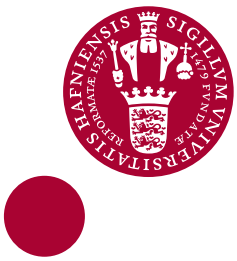

The appearance, disappearance, and reappearance of non-figurative rock art during the southern Scandinavian Neolithic and Bronze Age

Iversen, Rune

Published in:
Habitus?

Publication date:
2019

Document version
Publisher's PDF, also known as Version of record

Edited by:

SŁAWOMIR KADROW, JOHANNES MÜLLER

HABITUS?

The Social Dimension of Technology and Transformation

SCALES OF TRANSFORMATION IN PREHISTORIC AND ARCHAIC SOCIETIES | 3

Published by Sidestone Press, Leiden
www.sidestone.com

Imprint: Sidestone Press Academics
All articles in this publication have been peer-reviewed. For more information see www.sidestone.nl

Layout & cover design: CRC 1266/Carsten Reckweg and Sidestone Press
Cover images: Photo: C. Nicolas

ISSN 2590-1222

ISBN 978-90-8890-783-8 (softcover)
ISBN 978-90-8890-784-5 (hardcover)
ISBN 978-90-8890-756-2 (PDF e-book)

The STPAS publications originate from or are involved with the Collaborative Research Centre 1266, which is funded by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation; Projektnummer 2901391021 – SFB 1266).

Contents

The appearance, disappearance, and reappearance of non-figurative rock art during the southern Scandinavian Neolithic and Bronze Age

*Rune Iversen**

Abstract

This paper investigates to what extent the appearance, disappearance, and reappearance of non-figurative rock art can be linked with decisive social transformations taking place within the southern Scandinavian Neolithic and Bronze Age. New finds from the Neolithic site Vasagård on Bornholm (Denmark) have decisively proven that the most widespread rock art motif, the cup-mark, dates back to the earliest 3rd millennium BCE, that is, the Middle Neolithic following the Scandinavian chronology (Fig. 1). Cup-marks are the most common rock art motif and are explicitly part of the Bronze Age rock art repertoire (*c.*1700-500 BCE). However, due to the simple nature of cup-marks and their presence on primarily dolmen capstones, some scholars have suspected that they might reach far back into the Neolithic. This has not been possible to prove until now and the new findings open up the possibility that simple rock art could have been part of the neolithization process in the region. Then, with the end of the Middle Neolithic Funnel Beaker Culture and the appearance of Corded Ware (Single Grave) communities and following social changes, *c.*2850 BCE, the focus on megalith tombs and rock art seems to disappear. Firstly with new social transformations at the beginning of the Bronze Age, rock art began to flourish. We now see, as a new feature, figurative representations as a part of this imagery revival.

Keywords: Neolithic cup-marks, rock art, Scandinavia, megalithic art, non-figurative representation, aniconism, Bronze Age

Introduction

In a southern Scandinavian context, rock art is generally ascribed to the Bronze Age, *c.*1700-500 BCE (Fig. 1). Motifs include ships, weapons, animals, humans, hands, footprints, and the like. Besides, many of the depicted attributes such as helmets,

** University of Copenhagen, Department of Archaeology, Karen Blixens Plads 8, DK-2300 Copenhagen, Denmark runeiversen@hum.ku.dk*

Early Neolithic:	**4000–3300 BC**
Early Neolithic I:	4000–3500 BC
Early Neolithic II:	3500–3300 BC
Middle Neolithic:	**3300–2350 BC**
Early Middle Neolithic:	3300–2850 BC
Late Middle Neolithic:	2850–2350 BC
Late Neolithic:	**2350–1700 BC**
Late Neolithic I:	2350–1950 BC
Late Neolithic II:	1950–1700 BC
Early Bronze Age:	**1700–1100 BC**
Periods I–III	
Late Bronze Age:	**1100–500 BC**
Periods IV–VI	

Figure 1. General Neolithic and Bronze Age chronology of southern Scandinavia. Dates given in calendar years BCE.

axes, shields, lures, and even the sun horse motif are found in the archaeological record leaving no doubt about the affiliation of the rock carvings with the cultural milieu of the Bronze Age. Thus all these rock art motifs constitute figurative and recognizable features, which makes it possible to relate them to the material world of the Bronze Age. It has even been possible to establish a chronology of the Bronze Age rock carving ships based on similar depictions on bronzes recovered from archaeological contexts (Glob 1969, 55-56, Fig. 37; Kaul 1998b).

However, rock art as such is a far older phenomenon and is known from, for example, northern Scandinavia (*c.*9000-2000 BCE) where it is traditionally referred to as 'the Northern Tradition' or 'the hunter's tradition' usually depicting big-game animals. The southern part of Scandinavia is on the other hand solely represented by the Bronze Age rock art tradition and only in a few cases do the two traditions overlap as seen at, for example, Nämforsen in Västernorrland, Sweden, and in the Trondheim area in Norway (Kaul 2005; Nimura 2015, 14-15). This does not necessarily mean that all southern Scandinavian rock art motifs just belong to the Bronze Age as dolmen capstones are one of the most often used media for the simplest rock art motif, the cup-mark (Felding 2015). However, recent excavations have brought new evidence on the emergence of the non-figurative rock art tradition, which has made it necessary to consider the emergence and use of rock art in southern Scandinavia. At present, the use of rock art in southern Scandinavia does not seem to form an unbroken tradition but instead fluctuates with socio-cultural transformations. Hence the aim of this paper is to account for this development and try to link it with the marked socio-cultural changes that took place from the beginning of the Neolithic to the establishment of Bronze Age societies in the region.

The appearance – rock art as part of the neolithization?

The neolithization of southern Scandinavia started around 4000 BCE with the occurrence of the Funnel Beaker Culture and the introduction of the cultivation of cereals and domesticated livestock. Recent years' studies of ancient DNA (aDNA) and stable isotopes point to migration as a key factor in the neolithization of Europe (*e.g.* Brandt *et al.* 2013; Brandt *et al.* 2015; Hofmanova *et al.* 2016; Haak *et al.* 2010; Lazaridis *et al.* 2016; Rowley-Conwy 2011; Schulting and Borić 2017; Skoglund *et al.* 2012). In southern Scandinavia, farming could very likely have been introduced by

pioneering farmers from the Michelsberg Culture *c.*4400-3500 BCE (Becker 1947, 260-64; 1955, 172-74; Sørensen 2014, 124-26, 227-33).

After an initial phase of forest clearance and establishment of Neolithic life spanning *c.*200 years, a long period of monument building was initiated that included chambered tombs (earthen long barrows and megalithic tombs) and causewayed enclosures. In southern Scandinavia, the earliest megalithic monuments and causewayed enclosures seem to appear around 3700-3500 BCE but both types of monuments were subjected to an extensive reuse practice (Andersson and Wallebom 2013, 121, appendix 1; Klassen 2014, 141-42, 150, 211-214, 245). As for the megalithic tombs, this practice stretched well into the Bronze Age and even beyond whereas the causewayed enclosures often show recutting and infilling during the final Funnel Beaker phase in the early 3rd millennium BCE (Nielsen 2004; Nielsen *et al.* 2014).

Apart from the construction of earthen long barrows, tens of thousands of megalithic tombs and causewayed enclosures, large-scale depositing of flint axes, bog pots and amber beads took place in southern Scandinavia during the highly productive 4th millennium BCE (Becker 1947; Ebbesen 1995; Koch 1998; Nielsen 1978). In addition, the majority of Neolithic human sacrifices belong to this period (Bennike 1999) and copper flat axes are to be found, which represent a significant amount of copper imported into southern Scandinavia together with metal forging technologies (Klassen 2000).

Chambered tombs are widely spread across northern and western Europe from the early/mid 5th millennium BCE (France), the late 5th millennium BCE (Iberia), and the early 4th millennium BCE (Britain and southern Scandinavia). The earliest chambered tombs such as the earthen long barrows were non-megalithic, made of earth and timber. However, these were soon replaced by the first megalithic tombs, the non-accessible dolmens and then by accessible dolmens and passage graves. Even though the megalithic tombs varied considerably regarding their precise configuration in the different regions, they still share a general homogeneity of the architectonic concepts and they all share the presence of a chamber built to contain the dead. The chambered tombs are part of a larger megalithic tradition that in some areas includes standing stones (*menhirs*, Breton meaning 'long stone') and stone settings (Cummings *et al.* 2015; Laporte and Scarre 2016; Müller 2009; Patton 1993; Paulsson 2017; Scarre 2002).

Non-figurative geometric motifs are found as engravings on large stones throughout western Europe in many of the areas where megalithic tombs were built. Such engravings are generally referred to as *megalithic art* even though the same ornaments also occur on standing stones and as rock art on bedrock in Britain, Ireland and western Iberia. Similar non-figurative geometric expressions are found on, for example, Middle Neolithic Funnel Beaker pottery, which belongs to the most elaborately decorated and aesthetically finest produced in northern Europe's prehistory. It is characterized by complex and strictly executed compositions showing great artistic skills, and only in extremely rare cases are recognizable features indicated. The highest concentration of megalithic art is in the Boyne Valley, Ireland, where the Knowth and Newgrange passage graves stand out. The megalithic art of Ireland and Britain (primarily Orkney) is geometric and non-representative, mainly made up of circles, chevrons, triangles, lozenges, meander lines, spirals, arcs and the like. The peculiar lack of unambiguous figurative representations in the British and Irish megalithic art has been pointed out several times (O'Kelly 1970; Scarre 2007; 2017; Twohig 1981).

The main areas of megalithic art also include Brittany, central western France, and northern and western Iberia. In Iberia and Brittany, both carved and painted decoration occur (this has also been proved for some of the megalithic tombs in Orkney). In many cases, the decorated stones were in fact reused standing stones,

which were broken up and used as building material for the tombs. Even though the megalithic art of Iberia was mainly non-representational, sun symbols, whale motifs, animals including quadrupeds, serpents and stylized anthropomorphic figures are present. Also, Brittany holds figurative representations in the form of depictions of hafted axes, quadrupeds and whales (Alves 2012; Bradley *et al.* 2001; Bradley 2002; Cassen *et al.* 2015; Cummings *et al.* 2015; Fairén-Jiménez 2015; Jones *et al.* 2017; Twohig 1981; Whittle 2000).

Scandinavia immediately lacks megalithic art even though cup-marks are found on dolmen and passage grave capstones but these have usually been conceived as later Bronze Age engravings (Ebbesen 2011, 398-99; Glob 1969, 119; Kaul 2005, 55). The cup-mark is the simplest rock art motif, basically just a pecked concave depression in the rock surface. Cup-marks usually have a diameter of about 5 cm and a depth of *c.*1cm, but they can be as small as 1-2 cm in diameter; however, less than 4 cm in diameter is rare. Large cup-marks also occur. These can have a diameter of up to 10-15 cm and a depth of 5-7 cm. These are extremely rare though, but 6-10-cm wide and 2-5-cm deep cup-marks are not uncommon (Glob 1969, 111).

Due to their simple form, cup-marks are hard to date unless they form part of larger pictorial compositions. However, observations from the Newgrange passage grave in Meath (Ireland) show that the British 'cup and ring' mark tradition predates the construction of the tomb *c.*3200 cal BCE. Some radiocarbon dates from the Iberian peninsula suggest an occurrence of megalithic art already in the early 4th millennium BCE at approximately the same time as the tombs were built. Also, Brittany shows megalithic tombs with cup-marks. In some cases these are placed on the not visible 'hidden' sides of the stones, indicating that the cup-mark stones were reused as building material for the megalithic tombs. Thus it may be that cup-marks and megalithic art spread with the megalithic tombs or in some cases even predate these (Bradley 2002, 2009; Horn 2015; Pailler and Nicolas 2016; Scarre 2010a; Sharpe 2012, 112-22). In a southern Scandinavian context, this would be around 3700/3500 BCE. The question is whether we should assign the cup-marks found on megalithic tombs to the rich and ritually complex Neolithic epoch of the 4th millennium BCE as we know it from other parts of western Europe.

Megalithic art in southern Scandinavia?

The most common rock art motif in southern Scandinavia is definitely the cup-mark: more than 27,000 cup-marks have been documented in Denmark (*c.* 4,400) and Scania (*c.* 22,600) (Nimura 2015, table 4.14). In Denmark, dolmens are one of the preferred rock art media with more than 225 dolmens displaying cup-marks. In comparison, they appear on just a few more than 50 passage graves (Felding 2015, Fig. 6.3). However, as the total number of preserved megalithic tombs within present-day Denmark is *c.*2,400 (Eriksen and Andersen 2014, 47), the percentage of decorated tombs is just about 12. Thus the decoration of megalithic tombs was far from a prevalent tradition even though the real number of tombs with cup-marks or other rock art motifs might be higher as no systematic recordings have been carried out with modern techniques.

The cup-mark is by far the most frequent rock art motif on the megalithic tombs and they are usually placed on the capstones (Fig. 2). Only in ten Danish cases do we see other typical Bronze Age motifs, including ships, wheel crosses, footprints, spirals, and a male figure (Ebbesen 2011, 398; Glob 1969, find list I; Nielsen 1991). It is still an open question whether the cup-marks were pecked in the Neolithic, perhaps being contemporary with the building of the tombs or later Bronze Age additions. The occurrence of identifiable and datable Bronze Age imagery such as ship motifs, definitely shows that the capstones were accessible and attracted attention in the Bronze Age.

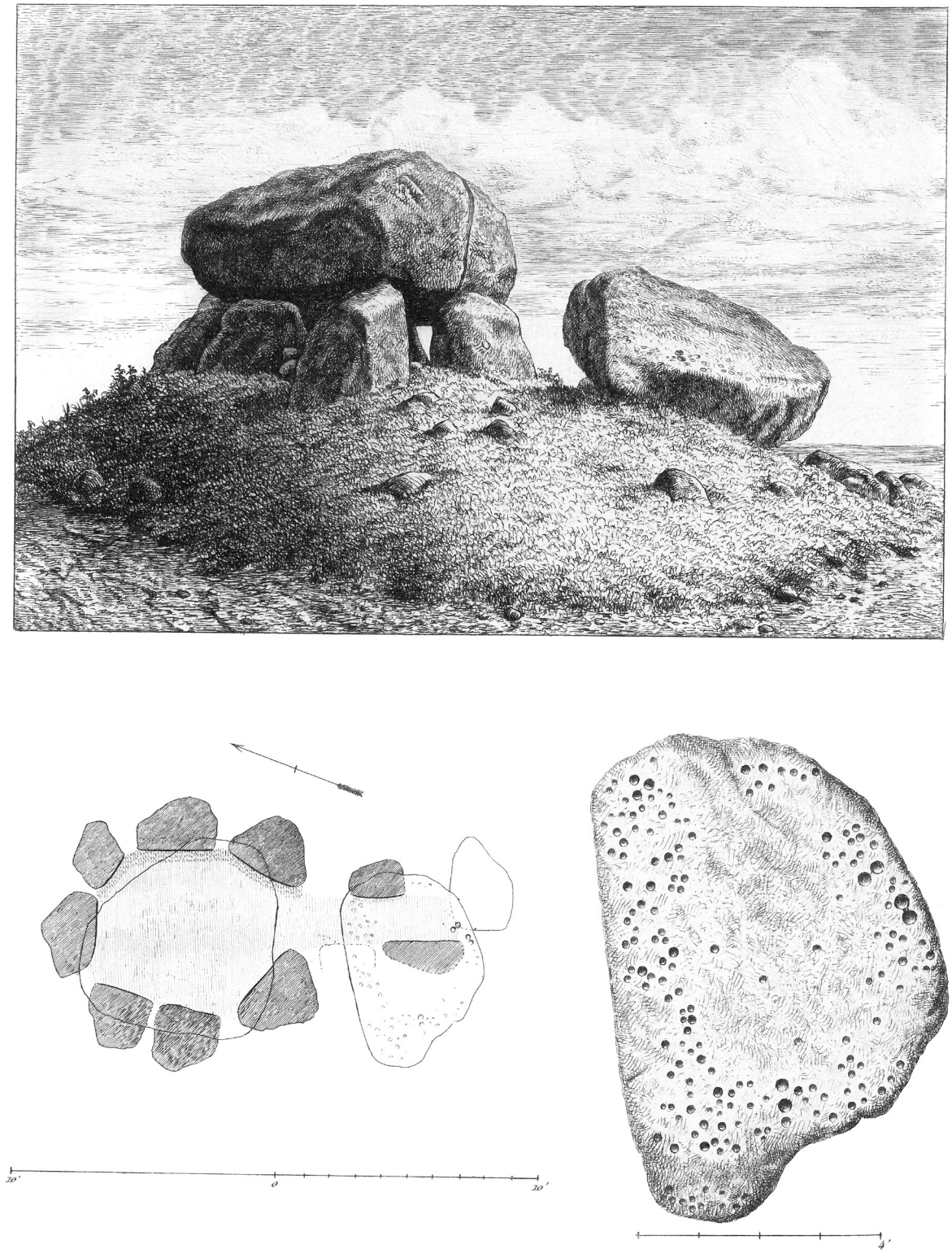

Figure 2. Drawing of the Sømark dolmen on Møn, Præstø County (Denmark). 445 cup-marks have been recorded on the passage capstone, three cup-marks on the chamber capstone, and ten cup-marks on one of the western chamber orthostats (Madsen 1896, pl. XXXVIII).

Figure 3. A 29-cm long flagstone with cup-marks from megalithic drystone walling, Onsved Mark, Horns Herred (Kaul 1987, 29).

One find, however, strongly implies the use of cup-marks in the Early Neolithic, the period in which the early dolmens were built. In 1986, The National Museum of Denmark excavated a destroyed and ploughed-down, long dolmen with a partly preserved chamber at Onsved Mark, Horns Herred, North Zealand. The kerbstones had already been removed a long time ago but flat flagstones from the drystone walling were still lying around, scattered at the site. One of these flagstones, a 29-cm long and 5-cm thick piece (Fig. 3), contained twelve cup-marks, two or three of which were cut through by a breakage, presumably as a result of the shaping of the flagstone when the drystone walling was built (Ebbesen 2011, 153; Kaul 1987). Even though the flagstone was not found *in situ* but picked up from a secondary deposit at the site, it clearly suggests that the cup-marks were made some time before the construction of the dolmen.

In addition, a small number of ornamented sandstone fragments with 'miniature' megalithic art have been recorded in Denmark and Scania, showing sketchy patterns including lines, chevrons and the like. Furthermore, the island of Bornholm, in the Baltic Sea, has revealed an increasing number of so-called 'sun-stones' from the early 3rd millennium BCE. These are usually small engraved shale plaques with spider web-like incisions, sun motifs, 'ladder patterns', sketchy lines, arcs, and plant/crop signatures indicating that stylistic fields or landscapes are depicted (cf. Kaul 1998a, 114-17; Kaul *et al.* 2016).

Yet another megalithic tomb has added information on the use of cup-marks. During a partial excavation of the Brutkamp (Albersdorf LA 5) dolmen in western Holstein, Germany, a stone with cup-marks was recovered directly under a stone pavement dated to the Late Neolithic period I. Due to its size and shape, the stone presumably represents one of the passage capstones which were moved during a Late Neolithic intrusion of the passage from above. Thus the cup-marks must be Late Neolithic at the latest, but they most likely date back to an early use, or even the construction phase, of the tomb (*c.*3600-3100 BCE, Brutkamp phases 1 and 2) (Dibbern 2016, 83-106).

Based on the Swedish evidence, Lasse Bengtsson argues that some of the larger cup-marks should be contemporaneous with the construction of the megalithic tombs, whereas the smaller cup-marks should be dated to the Bronze Age. However,

large cup-marks also occur among the Bronze Age rock carvings (Bengtsson 2004a; 2004b, 64-66; Horn 2015, 30-31 with references).

Also Burenhult argues for a Neolithic date for the cup-marks found on the megalithic tombs based on the distribution of Danish tombs with cup-marks. Megalithic tombs with cup-marks have a wider distribution compared with the general distribution of figurative Bronze Age carvings, which clearly concentrate in areas that held central importance in the Bronze Age, for example north-western Zealand. Furthermore, he ascribes some schematic 'megalithic type' carvings from Scania and Bohuslän, Sweden, to the Middle Neolithic. One of the places where these have been found is Järrestad in eastern Scania, which is located within one of Sweden's most significant areas when it comes to megalithic tombs. The carvings at Järrestad are found on a bedrock panel and include typical Bronze Age carvings such as ships, axes (palstaves), footprints, shoe soles and the like, except for some different carvings including double spirals, zigzags, U-motifs, and snakes. The latter group of motifs resembles those found in the megalithic art in western Europe, in particular in Ireland, which makes Burenhult suggest that they were pecked in the Middle Neolithic (Burenhult 1980, 104-20, 123; 1999, 311-13). This, however, has been contradicted by Peter Skoglund, who sees them as Bronze Age carvings (Skoglund 2013). Comparable 'megalithic' geometric motifs have also been recognized on rock art panels in western Norway, for example at Ausevik. Also these motifs have been ascribed to western influences (Irish, English, and Scottish) during the Middle or Late Neolithic (Fett and Fett 1979; Walderhaug 1995).

New evidence from Bornholm

During the last five years, the Bornholm Museum and the National Museum of Denmark have carried out excavations at the Neolithic site Vasagård, on southern Bornholm. From 2014, the investigations took place in cooperation with archaeological field school teams from Aarhus University and the University of Copenhagen (directed by the present author). Two Early Neolithic causewayed enclosures (Vasagård East and West), separated by a river valley, constitute the main features at Vasagård in addition to a Middle Neolithic palisaded enclosure, parts of which have been documented at both sites. The two enclosures have been subjected to several reuse phases, which include recuttings and depositions. The final reuse phase seem to correspond to the late Funnel Beaker period, the Vasagård phase (2900-2800 BCE) according to the local chronology (Nielsen et al. 2014; Nielsen *et al.* 2015).

In a Scandinavian context, palisaded enclosures date to the early 3rd millennium BCE, *c.*3000-2500 BCE. They comprised very large (up to 6-ha) fenced areas that probably functioned as central places of assembly. They are only known from eastern southern Scandinavia, that is to say, Zealand, Falster, Bornholm, and Scania. In general, the Danish sites are associated with the final Funnel Beaker Culture, whereas the Scanian sites have been related to the vaguely defined early Battle-Axe Culture (Brink 2009; Iversen 2015, 69 with references; Svensson 2002).

For the first time, the excavations at Vasagård have uncovered cup-marks in secure Neolithic contexts as two cup-mark stones were uncovered *in situ*. The first stone was found in one of the systems of ditches of the Vasagård West causewayed enclosure in 2016 in a layer immediately dated to *c.*3000-2900 BCE. The second stone was recovered from a section of the Middle Neolithic palisaded enclosure in 2017 (Fig. 4) (Iversen and Thorsen in preparation; Persson 2017).

With the new evidence from Vasagård, we have proved that the cup-mark tradition reaches back to at least the beginning of the 3rd millennium BCE. The cup-marks known from other parts of western Europe and those recorded on the megalithic tombs in Denmark and southern Sweden provide further indications that this tradition is even older. Strong indications that cup-marks were introdu-

Figure 4. Vasagård East (Bornholm, Denmark). Cup-mark stone in situ, palisade trench at excavation campaign 2017 (Photo: Rune Iversen).

ced with the megalithic building tradition has been provided by the cup-marked flagstone from the megalithic dry walling found at Onsved Mark and from the cup-mark stone found in the Brutkamp dolmen. But what about the period following the Funnel Beaker Culture, the later Middle Neolithic? In this period, the incipient rock art tradition seems to die out in southern Scandinavia, before it flourishes in the Bronze Age.

The disappearance – the Corded Ware interference

At the beginning of the 3rd millennium BCE, we see the emergence of Corded Ware communities in southern Scandinavia starting *c.*2850 cal BCE and covering a restricted area of the central and western Jutland peninsula (the Single Grave Culture). From the very beginning, we see a fully developed Corded Ware idiom with interments of east-west oriented flexed individuals covered by small burial mounds, curved cord-decorated beakers, and new types of stone battle-axes

as well as amber ornaments. Unfortunately, very few graves contain preserved human bones suitable for isotopic or aDNA analyses that could help us answer the question whether the buried were migrants, as advocated by Glob (1945, 241-58; 1971, 106-08) and Kristiansen (1991; 2009; 2012), or rather indigenous Funnel Beaker people who adopted a new culture and ideology (Damm 1993; Hübner 2005, 694-719). Only the contours of the body are preserved in the sandy lime-deficient soils of central and western Jutland.

However, recent years' aDNA studies have pointed to a substantial genetic influx from the Pontic-Caspian steppe into central Europe during the early 3rd millennium BCE, which has been connected with the spread of the pastoral Yamnaya Culture into Europe contributing to the creation of Corded Ware communities. This has also been backed by archaeolinguistic studies suggesting that proto-Indo-European was introduced at this point (Allentoft *et al.* 2015; Anthony 2007; Haak *et al.* 2015; Iversen and Kroonen 2017; Kristiansen *et al.* 2017).

Close to 2,400 single graves are known from Jutland (Hübner 2005, 60). Outside the Single Grave core area, megalithic entombments continued, in particular on the Danish islands, in Mecklenburg-Western Pomerania and in eastern Schleswig-Holstein. On the Danish islands (including Bornholm) and in Scania, the Funnel Beaker tradition continued in the form of a prolonged MN V phase and a permanent use of megalithic tombs (Iversen 2015).

Generally, the new Single Grave communities seem to have had a preference for small and scattered settlements located on sandy soils, often with relatively few finds compared with the larger conglomerated late Funnel Beaker settlements. The emergence of Single Grave communities in Jutland led to deforestation, which constituted a radical change in the Funnel Beaker landscape and might have been the result of an increased need for grazing in an intensive land-use system based on pastoral farming and some arable agriculture (Iversen 2015, 65-73 with references). Building with large stones did not seem to be a part of this mobile pastorally based land-use system and nor were engravings on such stones even though engraved stelae are well known from the Yamnaya Culture (Reinhold 2018; Telegin and Mallory 1994). However, wooden and stone-built burial cists existed in parallel with the classic single graves but these are mainly found in a restricted area in north-eastern Jutland. The cists date from the late Under Grave period and well into the Late Neolithic (Hübner 2005, 557-84).

Also dolmens and passage graves were reused in the Single Grave period. The reuse of megalithic tombs was a common feature throughout southern Scandinavia, even though this practice also displays great variations. In eastern Denmark, continuity prevailed in that megalithic tombs continued as the main burial form during the entire Middle Neolithic. It was largely the same tombs that continued in use from the late Funnel Beaker period to the end of the Middle Neolithic. This, however, was not the case in Jutland, where few tombs show continuity from the final Funnel Beaker to the Single Grave period. Generally, Single Grave megalithic burials occurred at a late stage on the Jutland peninsula and must be seen in conjunction with the building of wooden and stone burial cists. Consequently, the introduction of the Single Grave burial custom to Jutland was a distinct break with the megalithic tradition (Iversen 2015, 76-82, Fig. 4.40).

This breach of tradition probably also resulted in the abandonment of cup-mark making, even though some of the cup-marks recorded on megalithic tombs could, at least theoretically, belong to the Single Grave Culture. Cup-marks have been interpreted as an old fertility symbol affiliated with agricultural communities (Felding 2015; Horn 2015) and thus fits the Funnel Beaker focus on agriculture, fertile arable lands, permanent settlements, communal tombs, and ancestor worship. The use of cup-marks and megalithic art in general might even have connected megalithic societies across western Europe, creating a certain identity based on a shared

habitus that created, and was created by, commonalities of practice. In this context, *habitus* should be understood as commonly shared dispositions and perceptions of the world that resulted in congruent behavioural patterns (Bourdieu 2005, 197-8; Jones 1997, 90, 120; Prieur and Sestoft 2006, 38-45). As stated above, the Single Grave economy was presumably not primarily agricultural but rather pastorally based. The possible influx of newcomers introducing a Corded Ware lifestyle including a different approach to settlement, landscape, and burial practices and not sharing the 'megalithic/agrarian' *habitus* could explain the lack of cup-marks associated with the Single Grave/Corded Ware Cultures.

The reappearance – cup-marks and the introduction of figurative representations

Until the recent investigations on Bornholm, the oldest known cup-marks from secure contexts were those recovered during excavations, in 1955, of the burial mound Rævehøj, close to Gladsaxe School, just north of Copenhagen. The cup-marks were found on two stone slabs that formed part of a Late Neolithic stone cist, grave XIV (Vebæk 1980).

Stone architecture was reintroduced on a larger scale at the beginning of the Late Neolithic in the form of stone cists, presumably inspired by the north-western French gallery graves (*allées couvertes*) dating from the Late Neolithic and Copper Age, *c.*3250-2250 BCE (Ebbesen 2007, 33; Patton 1993, 134-47, 171-78; Scarre 2011, 230-40). The stone cist tradition continued until urn burials became predominant at the beginning of the Late Bronze Age.

However, the Late Neolithic stone cists can be separated from those of the Early Bronze Age in terms of construction. The Late Neolithic cists were constructed as 'burial chambers' intended for repeated use. They are mainly oriented east-west and the eastern end is often of a lighter construction than the western end, as it was intended to be reopened. Some cists even have a short entrance section and a threshold stone. In contrast, the closed stone cists commonly built during the Early Bronze Age (also termed 'stone coffins') were constructed for single interments. The reuse practice connected with the Late Neolithic cists often makes it difficult to date the construction of the cist precisely as previous interments were pushed aside in order to make room for new corpses and thereby mixed with earlier burials (Iversen 2015, 123-24 with references). The stone cist at Gladsaxe has been dated to the Late Neolithic period I (*c.*2350-1950 BCE) via the presence of a type I flint dagger (Ebbesen 2007; 2011, 153; Vebæk 1980, 57-59, Fig. 13).

In his 1969 publication on the rock carvings in Denmark, Glob records seven Late Neolithic burials containing cup-marks, but not all of these are clearly dated. In one case, a cup-mark stone was found in the mound filling of a Late Neolithic burial and in another case no artefacts were recovered to precisely date the grave. In other cases, cup-mark stones were part of stone cists as in Gladsaxe. Cup-marks are also known from several stones from Bronze Age barrows as are figurative motifs (Glob 1969, 119-25). Most notable among these are of course the elaborate Kivik cist in eastern Scania and the engraved stone slabs from the Sagaholm burial mound near Jönköping, Sweden (Goldhahn 1999; 2013; Randsborg 1993). A stone recovered from a ploughed Bronze Age mound at Truehøjgårds Mark in northern Jutland shows two ship motifs, a human figure, three feet, and cup-marks. In addition, feet and hand motifs are found in connection with graves from the Bronze Age (Glob 1969, 30-33, 85-96).

A Late Neolithic find from Nibehøj in Himmerland, northern Jutland, is of particular significance as it contains three cup-mark stones and a stone with a wheel cross and cup-marks. The three cup-mark stones were found among the eastern kerbsto-

nes surrounding the mound. The wheel cross stone was recovered in relation to a stone pavement located under the mound as a short trench was dug into the mound. The stone shows a five-spoke wheel cross with nine cup-marks placed between the spokes and one additional cup-mark at the centre of the wheel cross. Two graves were found under the stone pavement, both dated to the Late Neolithic period II, *c.*1950-1700 BCE. The rock carvings were reported to be 'freshly made' and have not been exposed to weathering, indicating that the burials and the rock art are contemporaneous (Glob 1969, 233-34, 274, Fig. 73).

The rock art tradition seems to have continued well into the pre-Roman Iron Age, until *c.*200 BCE. Motifs are known in the form of some ship images and riding scenes/mounted warriors and some cup-marks probably also date to this period (Coles 2008; Goldhahn *et al.* 2010; Horn 2015; Skoglund 2013, 6 with references). Actually, cup-marks are part of the early modern folklore dating back to the 17th century AD in Scandinavia and the use of cup-marks has been recorded in the ethnographic records in the Baltic States. Here they functioned as containers for small offerings as late as in the 19th and early 20th centuries AD (Goldhahn *et al.* 2010, 1; Horn 2015; Tvauri 1999, 138-43).

The Bronze Age clearly stands out from the predominantly imageless Neolithic period in showing a rich diversity of images depicting all kinds of rock art scenes, including ships, weapons, animals, humans, sun horses, hand motifs, footprints and the like. Furthermore, similar ship motifs, including associated beings such as humans and animals, are found as ornaments on bronzes throughout the Bronze Age, as are bronze figurines and miniatures, including the famous sun chariot. However, the significant Neolithic disregard of figurative representations, including figurines, is far from a southern Scandinavian phenomenon but can be found over large parts of western Europe in the areas where megalithic architecture and geometrical megalithic art prevail.

Discussion

As already pointed out above, megalithic art is mainly geometric and non-figurative (Twohig 1981, Fig. 13). The lack of figurative representations and the exclusive use of schematic and geometrical ornaments contrasts with the Neolithic and Chalcolithic societies of south-eastern Europe and the Near East. Here, clay figurines are counted in tens of thousands and seem primarily to be associated with domestic contexts. Furthermore, there is a strong correlation between figurines and settlement density: figurines are related to houses built for larger communities and they are abundant on, for example, the mega-sites (proto-cities) of the Cucuteni-Tripolye Culture (Bánffy 2017; Monah 2016; Perlès 2001, 6-7; Videiko and Rassmann 2016). Thus it is very likely that one of the functions related to the figurines was connected with the integration (via rituals?) of more complex societies, as proposed by Catherine Perlès for the Greek figurines (2001, 6). Compared to the megalithic and non-figurative northern and western Europe, the figurines seem to represent a very different organizational setting with complex and conglomerated social structures.

When discussing the lack of figurative representations and megalithic art in western Europe, a certain group of standing stones stands out: the statue menhirs of Brittany, southern France, western Iberia and the western Alps. The statue menhirs are stylized anthropomorphic standing stones dated mainly to the 3rd millennium BCE even though some of the French human-shaped menhirs probably date back to the 5th millennium BCE. Some statue menhirs are modified and shaped into humanized forms with pronounced heads and shoulders and some are carved, showing details such as facial features, clothes, weapons, and ornaments. However, the more elaborate carved anthropomorphic statue menhirs

occur fairly late compared with the beginning of early agricultural communities in western Europe and the large-scale megalithic building phases. It might be that the 'ordinary' unshaped and uncarved standing stones dated throughout the Neolithic should also be considered human representations (Cummings *et al.* 2015; Scarre 2007; 2010b; 2017).

This question is of course hard to answer, but if it deserves credit, we might be witnessing a rather long process of 'freeing' and concretizing the human figure from the naturally formed stone slabs. This happened firstly via shaping and then further articulated via engravings. In other words, the 'legalization' of anthropomorphic representations was a slow and gradual process that can be followed in certain areas of megalithic Europe – presumably associated with the emergence of complex societies. When it comes to the elaborate statue menhirs of the 3rd millennium BCE, they might have celebrated a restricted elite. It is during the Bell Beaker phase that individual burials appear and it is in this period that the statue menhirs gained importance in indicating new social practices and manifestations of elite groups (Bradley 2009, 89-93). Thus it might well be that figuration and social complexity were interlinked in Neolithic and Chalcolithic Europe.

In the Near East and in south-eastern Europe, a correlation between figurative representations and the integration of more complex societies is visible from early on with a rather early conglomeration of the settlement structure and use of clay figurines. In western Europe, a somewhat similar correlation came through in the course of the 3rd millennium BCE though displayed differently. In the latter region, it was not until the later Neolithic and Chalcolithic that personifications appeared as did clearer social structures. The question is whether a similar correlation between figurative representations and social complexity is also apparent further north in southern Scandinavia.

In southern Scandinavia, we clearly see a marked social diversification from around 2000 cal BCE and a de facto appearance of Bronze Age societies. This did not happen overnight but must be understood as a long formative process that partly originated in the cultural heterogeneous Middle Neolithic. Four aspects seem to have been essential to this process: the rise of the warrior figure, the reintroduction of metal, increased agricultural production, and the establishment of one of the characteristic features of the Bronze Age, the chieftain hall. One of the basic elements for the success of the upcoming Early Bronze Age elites in southern Scandinavia must have been an economic surplus gained through the reinforced agricultural focus. This surplus could be invested in trade and exchange with early Únětice Bronze Age communities (Iversen 2017 with references). During the earliest part of the 2nd millennium, formal hierarchies and centralization of wealth developed further and paved the way for the classic Nordic Bronze Age, from *c*.1600 cal BCE (cf. Vandkilde 2014) with its developed contact networks, wide-ranging communication, and exchange routes, elite lifestyle and the like. As part of this social stratification, images, human figures, mythologies, and rituals were recorded in stone and on bronzes. At this point, there was no turning back to the less formalized and less elitist social structure of the Neolithic and the associated disregard of figurative representations characterizing the megalithic monument-using communities of northern and western Europe.

It is indeed notable that the supposed old fertility symbol, the cup-mark, reappeared in a period holding renewed agricultural focus. If we assume that at least some of the cup-marks found on megalithic tombs were picked in the Neolithic, probably when the tombs were built, it is not inconceivable that Bronze Age people revisited these old monuments and pecked new cup-marks in a period when agriculture and related rites were revitalized and intensified. Bronze Age interments are known from several megalithic tombs (Ebbesen 2011, 391-99), as are classical Bronze Age rock art motifs, which clearly shows that the megalithic tombs attracted attention

in the Bronze Age. If we look at the classical figurative Bronze Age rock art known from the large bedrock panels in, for example, Bohuslän, Sweden, new studies have shown that these were far from static and fixed images but that individual carvings were revisited, transformed, and repecked through time. An explanation for this behaviour might be that by altering and adding elements to the rock art figures, the Bronze Age communities could engage with the past and their ancestors or mythical figures through these transforming events. The rock art became a medium through which people could engage with their forebears (Horn and Potter 2018, 379). A similar scenario could explain the Bronze Age use of megalithic capstones as a medium for rock art, including cup-marks.

Conclusions

In this paper, I have tried to view the use of cup-marks in a long-term perspective and link it with the socio-cultural developments that took place in southern Scandinavia from the Early Neolithic to the appearance of the classical Bronze Age. Based on new evidence and existing finds, it has been possible to date the cup-mark tradition back to the Middle Neolithic, presumably going back to the introduction of megalithic tombs in the Early Neolithic. Thereby, southern Scandinavia connects with the cup-mark tradition seen in other places of megalithic western Europe. However, no evidence of cup-marks or other rock art exists from the later Middle Neolithic, when Corded Ware influences became predominant. This might be due to a changed cultural and economic focus, no longer directed towards agriculture, fertility, monuments, and ancestral legitimation of land rights. Cup-marks reappear in the Late Neolithic together with a renewed agricultural and megalithic focus, now in the form of stone cists.

During the entire southern Scandinavian Neolithic, we see a pronounced disregard of figurative representations. This situation has clear parallels among western European megalithic monument-using societies, who might have shared some ideological/religious-based aversions against figurative representations. This situation is strongly contrasted by the widespread use of clay figurines in the south-eastern European Neolithic and Chalcolithic. This western European aniconism, or 'ban' on figurative representations, only seemed to loosen as social complexity increased and clear elite groups appeared during the 3rd millennium BCE. In southern Scandinavia, this development was somewhat delayed as rich figurative imagery first appeared when the old Neolithic social structures were replaced by pronounced elite manifestations at the beginning of the Early Bronze Age.

References

Allentoft, M.E., M. Sikora, K. G. Sjogren, S. Rasmussen, M. Rasmussen, J. Stenderup, P.B. Damgaard, H. Schroeder, T. Ahlstrom, L. Vinner, A. S. Malaspinas, A. Margaryan, T. Higham, D. Chivall, N. Lynnerup, L. Harvig, J. Baron, P. Della Casa, P. Dabrowski, P.R. Duffy, A. V. Ebel, A. Epimakhov, K. Frei, M. Furmanek, T. Gralak, A. Gromov, S. Gronkiewicz, G. Grupe, T. Hajdu, R. Jarysz, V. Khartanovich, A. Khokhlov, V. Kiss, J. Kolar, A. Kriiska, I. Lasak, C. Longhi, G. McGlynn, A. Merkevicius, I. Merkyte, M. Metspalu, R. Mkrtchyan, V. Moiseyev, L. Paja, G. Palfi, D. Pokutta, L. Pospieszny, T.D. Price, L. Saag, M. Sablin, N. Shishlina, V. Smrcka, V. I. Soenov, V. Szeverenyi, G. Toth, S.V. Trifanova, L. Varul, M. Vicze, L. Yepiskoposyan, V. Zhitenev, L. Orlando, T. Sicheritz-Ponten, S. Brunak, R. Nielsen, K. Kristiansen, and E. Willerslev.2015. Population genomics of Bronze Age Eurasia. *Nature* 522/7555,167-172. doi: 10.1038/nature14507.

Alves, L. B. 2012. The circle, the cross and the limits of abstraction and figuration in north-western Iberian rock art, in: Cochrane, A. and Jones, A.M. (eds.), *Visualising the Neolithic: Abstraction, Figuration, Performance, Representation*. Neolithic Studies Group Seminar Papers 13. Oxford: Oxbow Books, 198-214.

Andersson, M. and Wallebom, B. 2013. 'Döserygg and Skegrie. Megalithic centres in south-west Scania, southern Sweden, in: Fontijn, D., Louwen, A. J., van der Vaart, S., and Wentink, K., (eds.). *Beyond Barrows. Current research on the structuration and perception of the Prehistoric Landscape through Monuments*. Leiden: Sidestone Press, 115-39.

Anthony, D.W. 2007. *The Horse, the Wheel, and Language. How Bronze-Age Riders from the Eurasian steppes shaped the modern world*. Princeton and Oxford: Princeton University Press.

Bánffy, E. 2017. Neolithic Eastern and Central Europe, in: Insoll, T. (ed.). *The Oxford Handbook of Prehistoric Figurines*. Oxford: Oxford University Press, 705-28.

Becker, C. J. 1947. Mosefundne Lerkar fra yngre Stenalder. Studier over Tragtbægerkulturen i Danmark. *Aarbøger for nordisk Oldkyndighed og Historie* 1947, 1-318.

Becker, C. J. 1955. Stenalderbebyggelsen ved Store Valby i Vestsjælland. Problemer omkring tragtbægerkulturens ældste og yngste fase. *Aarbøger for nordisk Oldkyndighed og Historie* 1954, 127-204.

Bengtsson, L. 2004a. Cup marks of the common people, images of the elite, in: Milstreu G. and Prøhl H. (eds.), *Prehistoric Pictures as Archaeological Source*. Tanumshede: Tanums Hällristningsmuseum, 167-77.

Bengtsson, L. 2004b. *Bilder vid vatten. Kring hällristningar i Askum sn, Bohuslän*. Gotarc Serie C. Arkeologiska Skrifter, 51; Göteborg: Arkeologiska institutionen, Göteborgs Universitet.

Bennike, P. 1999. The Early Neolithic Danish bog finds: a strange group of people!, in: Coles, B., Coles J. and Jørgensen, M. S. (eds.), *Bog Bodies, Sacred Sites and Wetland Archaeology*. WARP Occasional Paper 12. Exeter: Wetland Archaeology Research Project, 27-32.

Bourdieu, P. 2005. *Udkast til en praksisteori – indledt af tre studier i kabylsk etnologi*. Trans. P. Bundgaard. København: Hans Reitzels Forlag.

Bradley, R. 2002. Access, Style and Imagery: The Audience for Prehistoric Rock Art in Atlantic Spain and Portugal, 4000-2000 BC. *Oxford Journal of Archaeology* 21/3, 231-47.

Bradley, R. 2009. *Image and Audience. Rethinking Prehistoric Art*. Oxford: Oxford University Press.

Bradley, R., Phillips, T., Richards, C. and Webb, M. 2001. Decorating the Houses of the Dead: Incised and Pecked Motifs in Orkney Chambered Tombs. *Cambridge Archaeological Journal* 11/1, 45-67.

Brandt, G., W. Haak, C. J. Adler, C. Roth, A. Szecsenyi-Nagy, S. Karimnia, S. Moller-Rieker, H. Meller, R. Ganslmeier, S. Friederich, V. Dresely, N. Nicklisch, J. K. Pickrell, F. Sirocko, D. Reich, A. Cooper, K. W. Alt, and Genographic Consortium. 2013. Ancient DNA Reveals Key Stages in the Formation of Central European Mitochondrial Genetic Diversity. *Science* 342 (6155),257-261. doi: 10.1126/science.1241844.

Brandt, G., A. Szecsenyi-Nagy, C. Roth, K. W. Alt, and W. Haak. 2015. Human paleogenetics of Europe – The known knowns and the known unknowns. *Journal of Human Evolution* 79,73-92. doi: 10.1016/j.jhevol.2014.06.017.

Brink, K. 2009. *I palissadernas tid. Om stolphål och skärvor och sociala relationer under yngre mellanneolitikum*. Malmöfynd 21. Malmö: Malmö Museer.

Burenhult, G. 1980. *Götalands Hällristningar (utom Göteborgs och Bohus län samt Dalsland).* Theses and Papers in North-European Archaeology 10. Stockholm: Institute of Archaeology at the University of Stockholm.

Burenhult, G. (ed.) 1999. *Arkeologi i Norden* 1. Stockholm: Natur och Kultur.

Cassen, S., V. Grimaud, P. d. Jersey, and L. Lescop. 2015. The Recording and Representation of Neolithic Engravings in the Déhus Passage Grave (Vale, Guernsey). *Proceedings of the Prehistoric Societiy* 81, 43-59.

Coles, J. 2008. A Land Apart: Environments and Rock Art in Northernmost Bohuslän, Sweden. *The Antiquaries Journal* 88, 1-36.

Cummings, V., Midgley, M.S. and C. Scarre. 2015. Chambered Tombs and Passage Graves of Western and Northern Europe, in: Fowler, C., Harding, J. and Hofmann, D. (eds.). *The Oxford Handbook of Neolithic Europe*. Oxford: Oxford University Press, 813-38.

Damm, C. B. 1993. The Danish Single Grave Culture – Ethnic Migration or Social Construct? *Journal of Danish Archaeology* 10, 1991, 199-204.

Dibbern, H. 2016. *Das trichterbecherzeitliche Westholstein: Eine Studie zur neolithischen Entwicklung von Landschaft und Gesellschaft*. Frühe Monumentalität und soziale Differenzierung 8. Bonn: Dr. Rudolf Habelt GmbH.

Ebbesen, K. 1995. Die nordischen Bernsteinhorte der Trichterbecherkultur. *Praehistorische Zeitschrift* 70 (1995/1), 32-89.

Ebbesen, K. 2007. Danske hellekister fra stenalderen. *Aarbøger for nordisk Oldkyndighed og Historie* 2004, 7-62.

Ebbesen, K. (2011) *Danmarks megalitgrave* 1. København: Attika.

Eriksen, P. and Andersen, N. H. 2014. *Stendysser. Arkitektur og funktion.* Jysk Arkæologisk Selskabs Skrifter 85. Århus: Jysk Arkæologisk Selskab, Ringkøbing-Skjern Museum and Moesgaard Museum.

Fairén-Jiménez, S. 2015. Neolithic Rock Art in Iberia, in: Fowler, C., Harding, J. and Hofmann, D. (eds.). *The Oxford Handbook of Neolithic Europe*. Oxford: Oxford University Press, 839-55.

Felding, L. 2015. A rock with a view: new perspectives on Danish rock art, in Skoglund, P., Ling, J. and Bertilsson, U. (eds.), *Picturing the Bronze Age*. Swedish Rock Art Series 3. Oxford: Oxbow Books, 65-78.

Fett, E.N. and Fett, P. 1979. Relations West Norway – Western Europe Documented in Petroglyphs'. *Norwegian Archaeological Review* 12/2, 65-107.

Glob, P.V. 1945. Studier over den jyske enkeltgravskultur. *Aarbøger for nordisk Oldkyndighed og Historie* 1944, 1-283.

Glob, P.V. 1969. *Helleristninger i Danmark.* Jysk Arkæologisk Selskabs Skrifter VII. Odense: Andelsbogtrykkeriet.

Glob, P.V. 1971. *Denmark. An Archaeological History from the Stone Age to the Vikings*. New York: Cornell University Press.

Goldhahn, J. 1999. *Sagaholm – hällristningar och gravritual*. Jönköpings Läns Museums Arkeologiska Rapportserie 41. Jönköping: Umeå Universitet, Jönköpings Läns Museum.

Goldhahn, J. 2013. *Bredarör på Kivik – en arkeologisk odyssé*. Kalmar Studies in Archaeology IX. Riga: Linnéuniversitetet.

Goldhahn, J., Fuglestvedt, I. and A. Jones.2010. Changing Pictures. An Introduction, in Goldhahn, J., Fuglestvedt, I. and Jones, A. (eds.). *Changing Pictures. Rock Art traditions and Visions in Northern Europe*. Oxford: Oxbow Books, 1-22.

Hofmanova, Z., S. Kreutzer, G. Hellenthal, C. Sell, Y. Diekmann, D. Diez-del-Molino, L. van Dorp, S. Lopez, A. Kousathanas, V. Link, K. Kirsanow, L. M. Cassidy, R. Martiniano, M. Strobel, A. Scheu, K. Kotsakis, P. Halstead, S. Triantaphyllou, N. Kyparissi-Apostolika, D. Urem-Kotsou, C. Ziota, F. Adaktylou, S. Gopalan, D.M. Bobo, L. Winkelbach, J. Blocher, M. Unterlander, C. Leuenberger, C. Cilingiroglu, B. Horejs, F. Gerritsen, S.J. Shennan, D.G. Bradley, M. Currat, K.R. Veeramah, D. Wegmann, M. G. Thomas, C. Papageorgopoulou, and J. Burger.2016. Early farmers from across Europe directly descended from Neolithic Aegeans. *Proceedings of the National Academy of Sciences of the United States of America* 113/25, 6886-6891. doi: 10.1073/pnas.1523951113.

Horn, C. 2015. Cupmarks. *Adoranten* 2015, 29-43.

Horn, C. and Potter, R. 2018, Transforming the Rocks – Time and Rock Art in Bohuslän, Sweden. *European Journal of Archaeology*, 21/3, 361-84.

Hübner, E. 2005. *Jungneolithische Gräber auf der Jütischen Halbinsel. Typologische und chronologische Studien zur Einzelgrabkultur*. Nordiske Fortidsminder, Serie B 24. København: Det Kgl. Nordiske Oldskriftselskab.

Haak, W., O. Balanovsky, J.J. Sanchez, S. Koshel, V. Zaporozhchenko, C.J. Adler, C.S I.D. Sarkissian, G. Brandt, C. Schwarz, N. Nicklisch, V. Dresely, B. Fritsch, E. Balanovska, R. Villems, H. Meller, K. W. Alt, A. Cooper, and Genographic Consortium. 2010. Ancient DNA from European Early Neolithic Farmers Reveals Their Near Eastern Affinities. *Plos Biology* 8/11. doi: 10.1371/journal.pbio.1000536.

Haak, W., I. Lazaridis, N. Patterson, N. Rohland, S. Mallick, B. Llamas, G. Brandt, S. Nordenfelt, E. Harney, K. Stewardson, Q. M. Fu, A. Mittnik, E. Banffy, C. Economou, M. Francken, S. Friederich, R. G. Pena, F. Hallgren, V. Khartanovich, A. Khokhlov, M. Kunst, P. Kuznetsov, H. Meller, O. Mochalov, V. Moiseyev, N. Nicklisch, S. L. Pichler, R. Risch, M.A.R. Guerra, C. Roth, A. Szecsenyi-Nagy, J. Wahl, M. Meyer, J. Krause, D. Brown, D. Anthony, A. Cooper, K. W. Alt, and D. Reich.2015. Massive migration from the steppe was a source for Indo-European languages in Europe. *Nature* 522/7555:207-211. doi: 10.1038/nature14317.

Iversen, R. 2015. *The Transformation of Neolithic Societies. An Eastern Danish Perspective on the 3rd Millennium BC*. Jutland Archaeological Society Publications 88. Højbjerg: Jutland Archaeological Society.

Iversen, R. 2017. Big-Men and Small Chiefs: The Creation of Bronze Age Societies. *Open Archaeology* 3/1, 361-75.

Iversen, R. and Kroonen, G. 2017. Talking Neolithic: Linguistic and Archaeological Perspectives on How Indo-European Was Implemented in Southern Scandinavia. *American Journal of Archaeology*, 121/4, 511-25.

Iversen, R. and Thorsen, M.S. In prep. Neolithic cup marks. Dating back the Nordic Bronze Age rock art tradition based on new evidence from Vasagård (Bornholm, Denmark).

Jones, A.M., Cochrane, A., and Diaz-Guardamino, M. 2017. Art in the making: Neolithic societies in Britain, Ireland and Iberia, in: Bickle, P., Cummings, V., Hofmann D. and Pollard, J. (eds.), *The Neolithic of Europe. Papers in honour of Alisdair Whittle*. Oxford: Oxbow Books, 201-21.

Jones, S. 1997. *The Archaeology of Ethnicity. Constructing identities in the past and present*. London and New York: Routledge.

Kaul, F. 1987. Skåltegnets alder. *Skalk* 1987/4, 28-30.

Kaul, F. 1998a. *Europas dysser og jættestuer*. København: Lægeforeningens forlag.

Kaul, F. 1998b. *Ships on Bronzes. A Study in Bronze Age Religion and Iconography*. PNM: Publications from the National Museum. Studies in Archaeology & History 3. Copenhagen: The National Museum of Denmark.

Kaul, F. (2005). Bronzealderens billedverden, in: Kaul, F., Stoltze, M., Nielsen, F. O. and Milstreu, G. (eds.). *Helleristninger. Billeder fra Bornholms bronzealder.* Rønne: Bornholms Museum and Wormianum, 44-67.

Kaul, F., Andresen, J., and Thorsen, M.S. 2016. Recent finds of Neolithic miniature rock art on the island of Bornholm – including topographic motifs. *Adoranten* 2016, 5-36.

Klassen, L. 2000. *Frühes Kupfer im Norden. Untersuchungen zu Chronologie, Herkunft und Bedeutung der Kupferfunde der Nordgruppe der Trichterbecherkultur.* Jutland Archaeological Society Publications 36. Åarhus: Jutland Archaeological Society.

Klassen, L. 2014. *Along the Road. Aspects of Causewayed Enclosures in South Scandinavia and Beyond.* East Jutland Museum Publications 2. Aarhus: Aarhus University Press.

Koch, E. 1998. *Neolithic Bog Pots from Zealand, Møn, Lolland and Falster*. Nordiske Fortidsminder Serie B 16. København: Det Kgl. Nordiske Oldskriftselskab.

Kristiansen, K. 1991. Prehistoric Migrations – the Case of the Single Grave and Corded Ware Cultures. *Journal of Danish Archaeology* 8, 1989, 211-25.

Kristiansen, K. 2009. Proto-Indo-European languages and institutions – an archaeological approach, in: Linden, M. V. and Jones-Bley, K. (eds.), *Departure from the Homeland: Indo-Europeans and Archaeology*. Journal of Indo-European Studies Monograph Series 56. Wasington DC: Institute for the Study of Man, 111-40.

Kristiansen, K. 2012. The Bronze Age expansion of Indo-European languages: an archaeological model, in: Prescott, C. and Glørstad, H. (eds.). *Becoming European. The transformation of third millennium Northern and Western Europe.* Oxford: Oxbow Books, 165-81.

Kristiansen, K., M.E. Allentoft, K.M. Frei, R. Iversen, N.N. Johannsen, G. Kroonen, L. Pospieszny, T.D. Price, S. Rasmussen, K.G. Sjogren, M. Sikora, and E. Willerslev. 2017. Re-theorising mobility and the formation of culture and language among the Corded Ware Culture in Europe. *Antiquity* 91/356: 334-347. doi: 10.15184/aqy.2017.17.

Laporte, L. and Scarre, C. 2016 (eds.). *The Megalithic Architectures of Europe*. Oxford: Oxbow Books.

Lazaridis, I., D. Nadel, G. Rollefson, D.C. Merrett, N. Rohland, S. Mallick, D. Fernandes, M. Novak, B. Gamarra, K. Sirak, S. Connell, K. Stewardson, E. Harney, Q.M. Fu, G. Gonzalez-Fortes, E.R. Jones, S.A. Roodenberg, G. Lengyel, F. Bocquentin, B. Gasparian, J.M. Monge, M. Gregg, V. Eshed, A. S. Mizrahi, C. Meiklejohn, F. Gerritsen, L. Bejenaru, M. Bluher, A. Campbell, G. Cavalleri, D. Comas, P. Froguel, E. Gilbert, S.M. Kerr, P. Kovacs, J. Krause, D. McGettigan, M. Merrigan, D.A. Merriwether, S. O'Reilly, M.B. Richards, O. Semino, M. Shamoon-Pour, G. Stefanescu, M. Stumvoll, A. Tonjes, A. Torroni, J.F. Wilson, L. Yengo, N.A. Hovhannisyan, N. Patterson, R. Pinhasi, and D. Reich. 2016. Genomic insights into the origin of farming in the ancient Near East. *Nature* 536/7617: 419-424. doi: 10.1038/nature19310.

Madsen, A. P. 1896. *Gravhøje og Gravfund fra Stenalderen i Danmark. Det østlige Danmark.* København: Gyldendalske Boghandel.

Monah, D. 2016. *Anthropomorphic Representations in the Cucuteni-Tripolye Culture*. Oxford: Archaeopress Publishing Ltd.

Müller, J. 2009. Die Jungsteinzeit 6000-2000 v. Chr., in: Schnurbein, v. S. (ed.). *Atlas der Vorgeschichte. Europa von den ersten Menschen bis Christi Geburt*. Stuttgart: Theiss, 58-105.

Nielsen, J. 1991. Lundehøj – en jættestue i Sydthy. *Historisk årbog for Thy og Vester Hanherred* 1991, 106-18.

Nielsen, P. O. 1978. Die Flintbeile der frühen Trichterbecherkultur in Dänemark. *Acta Archaeologica* 48, 1977, 61-138.

Nielsen, P. O. 2004. Causewayed camps, palisade enclosures and central settlements of the Middle Neolithic in Denmark. *Journal of Nordic Archaeological Science* 14, 19-33.

Nielsen, P.O., Andresen, J. and Thorsen, M.S. 2015. "Vasagård på Bornholm – palisader, solsten og et 4900 år gammelt, dekoreret kulthus." *Nationalmuseets Arbejdsmark* 2015, 50-63.

Nielsen, P.O., Nielsen, F.O.S. and Thorsen, M.S. 2014. "Vasagård. Stenalderbøndernes samlingsplads ved Læsåen." In: Nielsen, P.O., Nielsen, F.O.S. and Adamsen, C., *Solstensøen. På sporet af Bornholms bondestenalder.* Rønne: Bornholms Museum, 81-106.

Nimura, C. 2015. *Prehistoric Rock Art in Scandinavia: Agency and Environmental Change.* Swedish Rock Art Research Series 4. Oxford: Oxbow Books.

O'Kelly, M.J. 1970. Newgrange passage-grave, Ireland – the mural art, in: Filip, J. (ed.), *Actes du VIIe Congrès International des Sciences Préhistoriques et Protohistoriques, Prague, 21-27 août 1966* 1. Prague: Institut d'Archéologie de l'Academie Tchéologie des Science à Prague, 534-36.

Pailler, Y. and Nicolas, C. 2016. Des dalles ornées durant le Campaniforme et l'âge du Bronze ancien en Bretagne. Mythe ou réalite? *Bulletin de la Société préhistorique française* 113 (2), 333-371.

Patton, M. 1993. *Statements in Stone. Monuments and Society in Neolithic Brittany.* London and New York: Routledge.

Paulsson, B. S. 2017. *Time and Stone. The Emergence and Development of Megaliths and Megalithic Societies in Europe*. Oxford: Archaeopress.

Perlès, C. 2001. *The Early Neolithic in Greece: The First Farming Communities in Europe.* Cambrige World Archaeology. Cambridge: Cambridge University Press.

Persson, C. P. 2018. Danmarks ældste helleristninger fundet på Bornholm. <https://videnskab.dk/kultur-samfund/nordens-aeldste-helleristninger-fundet-paa-bornholm>, accessed 01-06-2018.

Prieur, A. and Sestoft, C. 2006. *Pierre Bourdieu: En introduktion*. København: Hans Reitzels Forlag.

Randsborg, K. 1993. Kivik. Archaeology & Iconography. *Acta Archaeologica* 64/1, 1993, 1-147.

Reinhold, S. 2018. В новый мир – изображения человека и отражение социальных архетипов в Западной Евразии после неолита/Into a new world – Human representation and social personae in western Eurasia after the neolithic. Уральский исторический вестник/Ural Historical Journal 58/1, 62-73.

Rowley-Conwy, P. 2011. Westward Ho! The Spread of Agriculture from Central Europe to the Atlantic. *Current Anthropology* 52, 431-451.

Scarre, C. 2007. Monuments and Miniatures: Representing Humans in Neolithic Europe 5000-2000 BC, in: Renfrew, C. and Morley, I. (eds.). *Image and Imagination – a global prehistory of figurative representations*. McDonald Institute Monographs. Cambridge: McDonald Institute for Archaeological Research, 17-29.

Scarre, C. 2010a. Rocks of ages: tempo and time in megalithic monuments. *European Journal of Archaeology* 13/2, 175-93.

Scarre, C. 2010b. Stones with Character: animism, agency and megalithic monuments, in: O'Connor, B., Cooney, G. and Chapman, J. (eds.). *Materialitas. Working Stone, Carving Identity*. Oxford: Oxbow Books, 9-18.

Scarre, C. 2011. *Landscapes of Neolithic Brittany*. Oxford: Oxford University Press.

Scarre, C. 2017. Neolithic Figurines of Western Europe, in: Insoll, T. (ed.). *The Oxford Handbook of Prehistoric Figurines*. Oxford: Oxford University Press, 877-899.

Scarre, C. 2002 (ed.). *Monuments and Landscape in Atlantic Europe. Perception and Society during the Neolithic and Early Bronze Age*. London and New York: Routledge.

Schulting, R. and Borić, D. 2017. A tale of two processes of Neolithisation: south-east Europe and Britain/Ireland, in: Bickle, P., Cummings, V., Hofmann D. and Pollard, J. (eds.), *The Neolithic of Europe. Papers in honour of Alisdair Whittle*. Oxford: Oxbow Books, 82-104.

Sharpe, K.E. 2012. Reading between the grooves: regional variations in the style and development of 'cup and ring' marked stones across Britain and Ireland, in: Cochrane, A. and Jones, A. M. (eds.), *Visualising the Neolithic: Abstraction, Figuration, Performance, Representation.* Neolithic Studies Group Seminar Papers 13. Oxford: Oxbow Books, 47-63.

Skoglund, P. 2013. Iron Age Rock-Art: A View from Järrestad in South-East Sweden. *European Journal of Archaeology* 16/4, 685-703.

Skoglund, P., H. Malmstrom, M. Raghavan, J. Stora, P. Hall, E. Willerslev, M.T.P. Gilbert, A. Gotherstrom, and M. Jakobsson.2012. Origins and Genetic Legacy of Neolithic Farmers and Hunter-Gatherers in Europe. *Science* 336/6080, 466-469. doi: 10.1126/science.1216304.

Svensson, M. 2002. Palisade Enclosures – The Second Generation of Enclosed Sites in the Neolithic of Northern Europe, in: Gibson, A. (ed.), *Behind Wooden Walls: Neolithic Palisaded Enclosures in Europe*. British Archaeological Reports (International Series) 1013. Oxford: Archaeopress, 28-58.

Sørensen, L. 2014. From Hunter to Farmer in Northern Europe. Migration and Adaptation during the Neolithic and Bronze Age. *Acta Archaeologica* 85/1, 2014, 1-276.

Telegin, D. Ya. and Mallory, J.P. 1994. The Anthropomorphic Stelae of the Ukraine: The Early Iconography of the Indo-Europeans. *Journal of Indo-European Studies Monograph 11*. Washington, DC: The Institute for the Study of Man.

Tvauri, A. 1999. Cup-Marked Stones in Estonia. *Folklore: Electronic Journal of Folklore* 11, 113-69.

Twohig, E. S. 1981. *The Megalithic Art of Western Europe.* Oxford: Clarendon Press.

Vandkilde, H. 2014. Breakthrough of the Nordic Bronze Age: Transcultural Warriorhood and a Carpathian Crossroad in the Sixteenth Century BC. *European Journal of Archaeology* 17/4, 602-33.

Vebæk, C. L. 1980. En Gravhøj i Gladsaxe med mange Begravelser fra Sten-, Bronze- og Jernalder. Årsskrift, Historisk-topografisk Selskab for Gladsaxe Kommune 13, 42-64.

Videiko, M. and Rassmann, K. 2016. Research on Different Scales: 120 Years of Trypillian Large Sites Research, in: Müller, J., Rassmann, K. and Videiko, M. (eds.), *Trypillia Mega-Sites and European Prehistory: 4100-3400 BCE*. Themes in Contemporary Archaeology 2. London and New York: Routledge, 17-28.

Walderhaug, E.M. 1995. Rock art and society in Neolithic Sogn og Fjordane, in: Helskog, K. and Olsen, B. (eds.), *Perceiving Rock Art: Social and Political Perspectives*. Serie B, Skrifter XCII. Oslo: Novus forlag, 169-80.

Whittle, A. 2000. 'Very Like a Whale': Menhirs, Motifs and Myths in the Mesolithic-Neolithic Transition of Northwest Europe. *Cambridge Archaeological Journal* 10/2, 243-59.

Notes on contributor

Rune Iversen is Assistant Professor at the Department of Archaeology, Saxo Institute, at the University of Copenhagen. His research interests centre on the European Neolithic and Early Bronze Age with special focus on megalithic-using communities, Neolithic iconography, cultural diversity, socio-cultural transformation processes, and archaeolinguistics. His academic teaching centres on the Neolithic and Bronze Age in Denmark and northern Europe, field archaeology, and archaeological documentation and analyses. Rune sits on the editorial board of the Danish Journal of Archaeology and he counsels the Danish Agency for Culture and Palaces on archaeological practice, standards, and strategies. He is also a member of the Research Committee at the Saxo Institute at the University of Copenhagen.